

12-6-05

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



537788

(43) International Publication Date
9 December 2004 (09.12.2004)

PCT

(10) International Publication Number
WO 2004/106440 A1

(51) International Patent Classification⁷: C09D 11/00

(21) International Application Number:
PCT/JP2004/007467

(22) International Filing Date: 25 May 2004 (25.05.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2003-149419 27 May 2003 (27.05.2003) JP
2004-062967 5 March 2004 (05.03.2004) JP
2004-146884 17 May 2004 (17.05.2004) JP

(71) Applicant (for all designated States except US): CANON KABUSHIKI KAISHA [JP/JP]; 3-30-2, Shimomaruko, Ohta-ku, Tokyo 1468501 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): SATO, Koichi [JP/JP]; c/o CANON KABUSHIKI KAISHA, 3-30-2, Shimomaruko, Ohta-ku, Tokyo 1468501 (JP). NAKAZAWA,

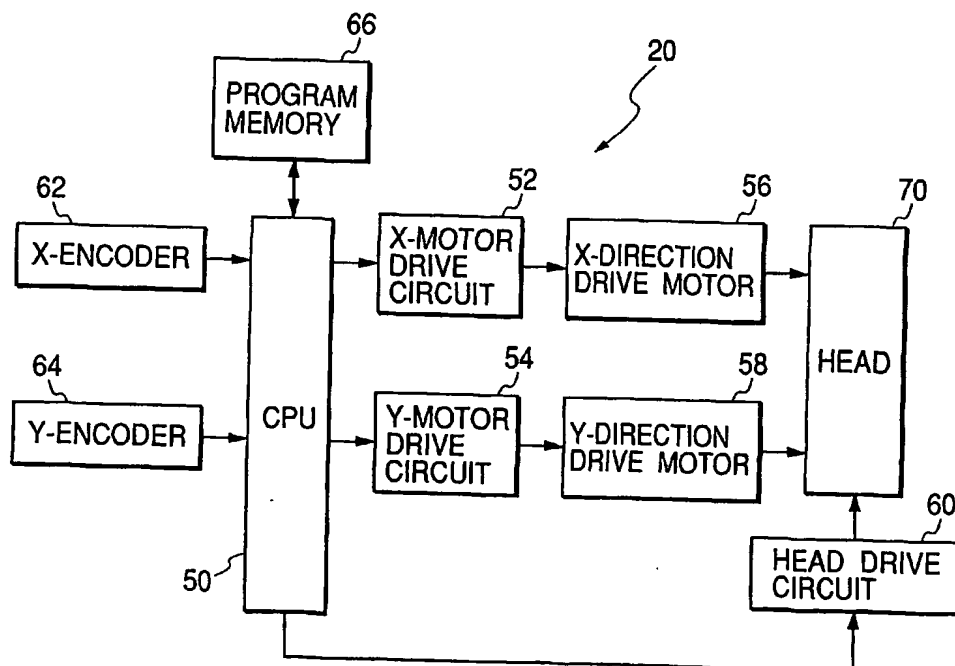
Ikuo [JP/JP]; c/o CANON KABUSHIKI KAISHA, 3-30-2, Shimomaruko, Ohta-ku, Tokyo 1468501 (JP). SUDA, Sakae [JP/JP]; c/o CANON KABUSHIKI KAISHA, 3-30-2, Shimomaruko, Ohta-ku, Tokyo 1468501 (JP). IKEGAMI, Masayuki [JP/JP]; c/o CANON KABUSHIKI KAISHA, 3-30-2, Shimomaruko, Ohta-ku, Tokyo 1468501 (JP). TSUBAKI, Keiichiro [JP/JP]; c/o CANON KABUSHIKI KAISHA, 3-30-2, Shimomaruko, Ohta-ku, Tokyo 1468501 (JP). HIGASHI, Ryuji [JP/JP]; c/o CANON KABUSHIKI KAISHA, 3-30-2, Shimomaruko, Ohta-ku, Tokyo 1468501 (JP). YAMAGISHI, Keiko [JP/JP]; c/o CANON KABUSHIKI KAISHA, 3-30-2, Shimomaruko, Ohta-ku, Tokyo 1468501 (JP).

(74) Agents: OKABE, Masao et al.; No. 602, Fuji Bldg., 2-3, Marunouchi 3-chome, Chiyoda-ku, Tokyo 1000005 (JP).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG,

[Continued on next page]

(54) Title: LIQUID, PH-SENSITIVE INK, METHOD AND APPARATUS USING THE SAME



(57) Abstract: A novel liquid composition set is provided for forming an image or pattern by functional substances such as a col-
orant without causing blurring. Each of the liquid compositions of the set comprises a functional substance, an amphiphilic block
copolymer or graft copolymer having an organic acid group, and a liquid medium, wherein the organic acid groups of the copolymers
are different in pKa, and the amphiphilic polymer contained in the first liquid composition becomes viscous by pH change on contact
with the second liquid composition different in pH from the first liquid composition.

WO 2004/106440 A1



KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.